Application No. 10/590926
Responsive to the office action dated May 25, 2010

REMARKS

Favorable reconsideration of this application is requested in view of the following remarks.

Claims 1-12 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Okamura et al. (U.S. Patent No. 5,523,154) in view of Girgis (U.S. Patent No. 4,476,191). Applicants respectfully traverse this rejection.

Claim 1 recites that the composition for cord coating includes latex of a first rubber, phenol resin, and a water-soluble condensation product of resorcinol-formaldehyde, which is a novolac-type condensation product. The phenol resin of claim 1 is a resin formed from phenol and present at 1-30% by weight relative to solids in the composition. Such "resin" is a long chain product obtained by polymerization of numerous monomer molecules.

The rejection relies on Girgis' disclosures of the phenol resin formed by a reaction of an unreacted phenolic compound with formaldehyde and the novolac-type water-soluble resorcinol-formaldehyde product (see pages 3 and 5 of the May 25, 2010 Office Action). In particular, for meeting the requirement of the novolac-type product of claim 1, the resorcinol-formaldehyde product is formed in an acidic condition in Girgis (see id., on page 3).

Girgis is directed to a method to prepare phenolic aldehyde resin, which particularly is resorcinol-formaldehyde resin and discloses a two-step method, and the resorcinol-formaldehyde resin of the reference includes a substantial amount of resorcinol-formaldehyde trimer polymer and a small amount of unreacted aldehyde (see coln. 1, lines 15-20 and coln. 3, lines 25-28). In the first step of Girgis, a phenolic compound and formaldehyde are added to a reaction vessel to form a resinous or polymeric mixture (see coln. 6, lines 22-29 and 60-64). In contrast to claim 1, in which the phenol resin is made from phenol as discussed above, a reaction product of formaldehyde and the phenolic compound, i.e., resorcinol or a mixture of resorcinol and a small amount of phenol, cresol, etc., of Girgis is mostly resorcinol-formaldehyde (see coln. 6, lines 3-12). Girgis further discloses the second step in which pH is adjusted to

above 7 to 7.5 and that the unreacted formaldehyde reacts with the resin formed in the first step and with unreacted resorcinol (see abstract and coln. 7, lines 29-32). As discussed above, a resin is understood as a long chain product obtained by polymerization of numerous monomer molecules. In addition, it is known that resorcinol is more reactive with formaldehyde than phenol (see Van Gils, Ind. Eng. Chem. Prod. Res. Dev., 1968, 7(2), pp. 151-154 at third paragraph on left coln. on page 151, available at http://pubs.acs.org/doi/pdf/10.1021/i360026a012). Thus, even if a small amount of phenol were present in the reaction system of Girgis, formaldehyde would mostly react with resorcinol resin in the environment where resorcinol is a major component and reacts much faster with formaldehyde than phenol. Accordingly, there is no reason to assume that a phenol resin required by claim 1 is present in the Girgis composition.

With respect to the novolac-type water-soluble resorcinol-formaldehyde product, it is known in the art that the novolac-type resin is formed in an acidic condition and the resol-type resin is formed in a basic condition (see pages3 of the May 25, 2010 Office Action). In the first step of Girgis, resorcinol reacts with formaldehyde in the acidic condition, and in the second step, the reaction is carried out in a basic condition (see coln. 4, lines 45-52). As discussed above, in the second step, the unreacted formaldehyde reacts with the resin formed in the first step and with unreacted resorcinol (see abstract and coln. 7, lines 29-32). Accordingly, even if the novolac type of resorcinol-formaldehyde resin were formed in the first step, in the second step, the resin grows in the basic condition, which generally produces the resol-type resorcinol-formaldehyde resin, or the unreacted resorcinol reacts with formaldehyde in the basic condition and forms the resol-type resorcinol-formaldehyde resin. Thus, there is no reasonable basis to assume that the resorcinol-formaldehyde product of Girgis is a novolac-type condensation product as claim 1 recites.

Accordingly, claim 1 and claims 2-12, which ultimately depend from claim 1, are distinguished from Okamura and Girgis, and this rejection should be withdrawn.

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In view of the above, Applicants request reconsideration of the application in the form of a Notice of Allowance.

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